THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	Confirmation No: 7891
	)	
LOHBECK, Wilhelmus Christianus Maria	)	Examiner: Gay, J.
	)	
Appln No.: 10/574,132	)	Art Unit: 3676
	)	
Filing Date: March 30, 2006	)	
	)	
Expandable Wellbore Assembly	)	June 16, 2011

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REQUEST FOR PRE-APPEAL REVIEW

Dear Sir:

Applicants respectfully request review of the final rejection mailed February 17, 2011, in the above-identified application. The review is requested for the reasons stated on the attached pages.

This request is being filed with a Notice of Appeal.

No amendments are being filed with this request. At the time of the Final Office Action, claims 1-10 and 12-14 were pending.

Any fee necessary to enter the Request may be charged to our Deposit Account No. 19-1800, and in case any overbalance exists this Deposit Account may be credited.

REMARKS

Applicants acknowledge receipt of the Final Office Action dated February 27, 2011, in which the Examiner continued the rejection of claims 1-3 and 5-8 as anticipated by Bailey (US 6098717); continued the rejection of claims 1-3 and 5-8 as anticipated by Nguyen et al. (US 7048048); continued the rejection of claims 1-3 as anticipated by Brezinski et al. (US 2005/0092485); continued the rejection of claim 4 as obvious in view of Bailey or Nguyen; continued the rejection of claims 9-10 as obvious in view of Bailey or Nguyen in view of Metcalfe (US 6457533); and continued the rejection of claims 12-14 as obvious in view of Bailey or Nguyen in view of Kirk (7096939).

Applicants have NOT amended the claims and respectfully submit that the afore-mentioned rejections are based on improper factual assumptions and inaccurate interpretations of the references.

Rejection of claims 1-3 and 5-8 as anticipated by Bailey

As stated in the previous response, Bailey does not disclose:

I. an expandable tubular element that shortens as a result of radial expansion,
II. first and second portions that move toward each other when the tubular element is expanded, or
III. a third portion that moves radially outward more than the tubular element.

I. Bailey has no expandable tubular element that shortens as a result of radial expansion,

In response to Applicant's assertion that metal tubulars do not inherently shorten when radially expanded, the Examiner makes three points, which are addressed sequentially below:

1) Applicant has provided persuasive evidence

- In the Response filed on August 25, 2010, Applicant included figures from WO 03/008750, clearly showing an expansion occurring **without axial shortening**.
- Applicant points to paragraph [0020] of US application No. 2007/0000664, which includes the passage, "...this is due to the fact that use of **the rotary expander tool 140 lengthens the tubular 110 by thinning of the tubular wall.**"
- Applicant points to page 4 of the paper *Computational Mechanics of Wellbore Tubular Expansion,* 2003 ABAQUS User's Conference, which includes a statement that "The liner cannot shorten during expansion." www.cadfamily.com/Download.aspx?action=Tutorial&ID=301822

Applicant submits that these three items are at least sufficient evidence to show that **shortening is not an inherent result of radial expansion**.

2) Effect of slots

The Examiner points to page 3, lines 11-14 of the present application as implying that "a radially expanded tubular element will shorten at least to some degree." Applicant respectfully points out that the cited passage reads "By virtue of the pattern of axially overlapping slots 4, the EST 3 is susceptible to significantly less axial shortening than the tubular element 2 upon radial expansion." Significantly, the same paragraph expressly states that tubular element 2 is "susceptible to axial shortening upon radial expansion thereof." Thus, the cited passage merely states that a slotted tube will shorten less than a tube that is susceptible to shortening; it does not say anything about tubes in general. In fact, the cited passage can equally be interpreted as implying that **there are tubulars that do not shorten upon radial expansion thereof**.

3) Poisson's ratio, Sebig paper

Applicant does not dispute the scientific facts set out in the Wikipedia entry on Poisson's ratio and the Sebig paper, but respectfully submits that **neither the references nor basic science substantiates the assertion of inherent axial shortening**. As clearly set out in the Wikipedia entry, materials can be isotropic, orthotropic, or transversely isotropic. Poisson's ratio, which need not be isotropic, can range from -1 to 0.5 and can be zero. Even in the Sebig paper, which assumes isotropy, the degree of lengthening is greatly dependent on the coefficient of friction (Fig. 8) and the cone angle (Fig. 9).

Thus, as indicated in the previously submitted *Responses* and substantiated in the literature, it is clearly possible that radial expansion of a tubular can occur without axial shortening. The mere fact that an effect is the **probable** outcome of an action, does not make that outcome inherent.

II. Bailey has no first and second portions that move toward each other when the tubular element is expanded

Even if the inner tubular of Bailey **did** shorten upon expansion, Applicant disputes the Examiner's assertion that Bailey discloses an outer structure 16 having first and second portions that are "connected to the tubular element at respective locations axially spaced from each other such that the distance between the first and second portions changes during radial expansion of the tubular element between the first and second portions." In support of that conclusory assertion,

the Examiner states that the outer structure would "fall down the well" if it were not securely fastened to the tubular.

Applicant respectfully submits that the statement is unsupportable. There are several configurations in which the outer structure could be prevented from "falling down the well" while still not meeting the limitations of the claim.

To give just two such configurations: the outer structure could be securely/immovably secured to the inner tubular at just one end (leaving the second end of the outer structure free to slide along the inner structure as the inner tubular shortens), or the outer structure could be held in place on the outside of the inner tubular by a coefficient of friction that is sufficient to resist the force of gravity but which can be overcome by shortening of the inner tubular (allowing the outer structure to maintain its length as the inner tubular shortens).

In both cases, the outer structure would neither fall down the well nor experience movement of its subparts toward each other as the inner tubular shortens.

Thus, Applicant maintains his assertion that neither Bailey nor Nguyen inherently discloses an outer structure having two parts that move toward each other when the inner tubular shortens.

III. Bailey has no third portion that radially expands more than the tubular element.

The Final Office Action appears to omit a rebuttal of the arguments made previously regarding this claim element. Therefore, in support of the assertion that Bailey does not anticipate 1 claim, Applicant hereby re-submits the arguments made previously:

> "[N]othing in Bailey suggests that any portion of outer structure 16 will expand radially more than the tubular element. In the drawings, body 18 of structure 16 (which is mis-labeled in Fig. 2) is undeformed and remains conformed to the outer surface of tubular 14 after expansion. In fact, since structure 16 is not affixed to tubular 14, it can be expected that the axial distance between the first and second ends of structure 16 will be unaffected by the axial length of the adjacent portion of tubular 14, therefore placing the Bailey device wholly outside the scope of the present claims.

Rejection of claims 1-3 and 5-8 as anticipated by Nguyen et al.

With respect to Nguyen, applicant respectfully re-states the arguments made above with respect to Bailey. Nguyen relates to a sand screen. Like Bailey, and as acknowledged in the Office Action, Nguyen does not teach shortening of the inner tubular, connection of the outer structure in the claimed manner, or radial movement of the outer structure as a result of shortening of the inner tubular. As with the rejection over Bailey, the characterization of

Nguyen that is used to support the rejection is based solely on conjecture and finds no basis in the reference itself or in known technological aspects thereof.

In particular, the entire bolded paragraph at the bottom of p. 7 of the Final Office Action is based on the premise that the ends of Nguyen's sand screen are secured/connected/ affixed/attached to the inner tubular such that shortening of the tubular will cause the ends of the sandscreen to move toward each other. This premise in turn is apparently a result of the Examiner's belief that the sandscreen would "fall down the well" if it were not secured tightly at both ends. Applicant's response to this assertion is set out above.

Because that argument is wholly without merit, Applicant requests that this rejection be reconsidered and withdrawn.

Rejection of claims 1-3 as anticipated by Brezinski et al.

In support of this rejection, the Final Office Action repeats the assertions made with respect to Bailey and Nguyen.

Further, the Final Office Action contains the cryptic assertion that "'connected to' is not equivalent to 'secured to'." In response, Applicant respectfully points out that the claim element in question does not merely recite that the first and second end portions are "connected to" the tubular element. Rather, the claim element in its entirety reads:

> the first portion and the second portion of the outer structure being connected to the tubular element **throughout radial expansion** of the tubular element at respective locations axially spaced from each other **such that the distance between the first and second portions changes during radial expansion of the tubular element between the first and second portions**;

As set out in previous responses, Brezinski teaches a stretched elastomeric element that is retained in a stretched mode by engagement of sliding ring 60 with a lip on the inner tubular. As soon as the lip is eliminated, elastomeric element 56 returns to its normal shape, i.e. shortens, and sliding ring 60 slides toward permanently attached ring 58. The shrinking of element 56 would occur regardless of whether the tubular element was expanded between the first and second portions. Thus, at least the following features of Brezinski establish that it does not meet the claim limitations:

- elastomeric element 56 shortens as soon as it is released – thus the distance between its two ends does not change "during expansion"
- sliding ring 60 **slides** along the inner tubular and therefore is not "**connected**" in the manner recited in the claims or intended by Applicant.

Request for Input

In view of statements in the Final Office Action, Applicant believes that the rejections may be based in part on differences in interpretation of certain basic words.

For example, the office action appears to the suggest that replacement of "connected to" with "secured to" or replacement of "during" with "throughout" might address some of the outstanding issues. Thus, for example, the claim element quoted above might be re-written as

> - the first portion and the second portion of the outer structure being secured ~~connected~~ to the tubular element throughout radial expansion of the tubular element at respective locations axially spaced from each other such that the distance between the first and second portions changes throughout ~~during~~ radial expansion of the tubular element between the first and second portions;

Applicant respectfully requests that the Pre-Appeal Board inform the Applicant if the outstanding rejections could be addressed in such a manner.

Rejection of claims 4 as obvious in view of Bailey or Nguyen

Applicant does not dispute the Examiner's taking of OFFICIAL NOTICE regarding the of use of welds. Nonetheless, Applicant maintains the assertion that there would be no reason to modify the references to include welded connections because neither Bailey nor Nguyen teaches affixing the ends of outer structure to the inner structure.

Rejection of claims 9-10 as obvious in view of Bailey or Nguyen in view of Metcalfe

Because the dependent claims depend from claim 1 and recite further features, Applicant respectfully traverses this rejection is for the reasons set out above.

Rejected claims 12-14 as obvious in view of Bailey or Nguyen in view of Kirk

Because the dependent claims depend from claim 1 and recite further features, Applicant respectfully traverses this rejection is for the reasons set out above

Conclusion

Applicant respectfully requests that the rejections be withdrawn. If it would be considered helpful in resolving any issues in the case, the Examiner is encouraged to contact the undersigned at the number below.

Respectfully submitted,
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